

Population Health Annual Summary

Overview of Population Health Fiscal Year 2016 Achievements

Access to Care

Support for Primary Care Manager Continuity Clinic

Created Primary Care Manager (PCM) Continuity Clinic patient profiles for Navy Medical Treatment Facilities (MTFs) at the request of the Bureau of Medicine and Surgery (BUMED).

Results

- Informed BUMED's PCM continuity metric development to identify meaningful targets at the primary care level.
- Assisted leadership with evaluating program impact and providing maximum access to quality healthcare.

Marine Corps Medical Home Emergency Department Utilization

Examined the impact of Marine Corps Medical Home (MCMH) on emergency department use, MCMH referrals, and clinic wait times by evaluating patterns of change in the percentage of maintained and completed appointments wait times within each MCMH site.

Results

- Identified the impact of MCMH programs on patient care delivery and aims to improve access to care (ATC) for Marines in MCMH.

Association of the Utilization of Secure Messaging and Reduced Wait Times for Flight Physicals Report

Assessed wait times for flight physical exams at the Naval Health Clinic Patuxent River to evaluate a process improvement activity.

Results

- Identified a decrease in wait times for flight physical exams.
- Provided findings for customer to present to the Naval Aerospace Medical Institute to potentially use the best practices for other efforts aimed at improving patient care delivery.

Shipboard Medical Evacuations Analysis

Analyzed the medical causes of shipboard medical evacuations (MEDEVAC) cases for Fleet Surgeons to assess the capabilities on various ship platforms.

Results

- Provided information to assess the appropriate level of care and trigger points for MEDEVACs.

Antibiotic Resistance

Multi-drug Resistant Organism and Clostridium Difficile Infection Incidence among MHS Beneficiaries Report

Evaluated incidence of Multi-Drug Resistant Organism (MDRO) and

found that infection rates have declined 50 percent over the past 10 years while Clostridium difficile infections (CDI) increased by 40 percent, but declined by 15 percent in the active duty population.

Results

- Assisted the U.S. Army Medical Research and Material Command with prioritizing research, development, test, and evaluation investment in novel antimicrobial countermeasures.

President's Initiative for Combating Antibiotic-Resistant Bacteria Initiative and Stewardship Program

Executed the pilot phase of reporting antimicrobial resistance data into the National Healthcare Safety Network system in support of the Combating Antibiotic-Resistant Bacteria (CARB) Program.

Results

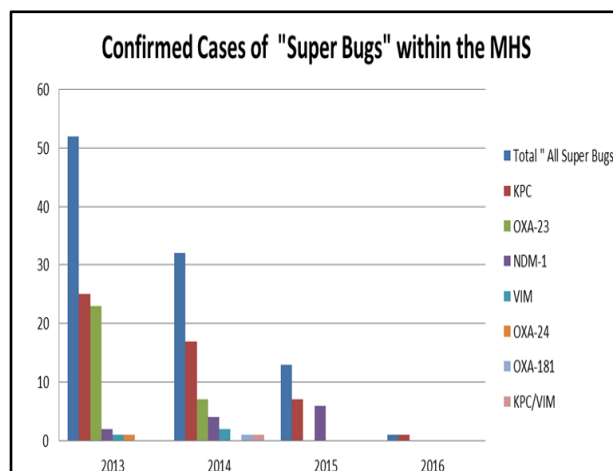
- Enabled Navy and Army MTFs to report facility antimicrobial susceptibility data to the Center for Disease Control and Prevention (CDC) to inform the antimicrobial stewardship interventions.

Navy Antimicrobial Surveillance System Maintenance

Leveraged the capabilities of the Navy Antimicrobial Surveillance System in support of Department of Defense (DoD) Antimicrobial Resistance Monitoring and Research (ARMoR) program to monitor emerging antimicrobial resistant infections at MTFs.

Results

- Alerted leadership of emerging infections and resistance patterns, which triggers additional precautionary infection control measures and informs provider decisions on empirical treatment.
- Fostered collaboration between the Army Multi-drug Resistance Surveillance Network and MTFs to create a comprehensive system that tracks and monitors emerging infections across the enterprise.



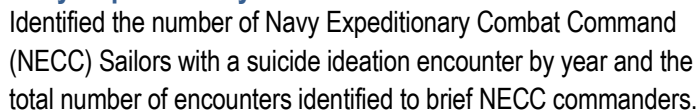
Overview of Population Health Fiscal Year 2016 Achievements

Provided reports to MTFs, service public health hubs, and infectious disease community on antibiograms, antibiotic and antiviral medications, and clinical visits.

- Summarized the susceptibility results for select pathogens that were identified among beneficiaries who received care at a MTF.
- Used to inform infection prevention interventions, program evaluations, and patient treatment.

Conducted in-depth review of medical and personnel records among suicides and provided quantitative and qualitative analysis for the annual Navy Suicide Deep Dive.

- Identified risk factors and prevention approaches to reduce suicide events.
- Informed healthcare leaders and policy makers on program effectiveness and potential interventions to prevent suicide cases.



- Heighten leadership awareness of the severity of suicide ideation in the fleet and informed targeted prevention measures.

Provided a report to BUMED on the behavioral health factors identified within one year following the 2008 deployment to Afghanistan for the 2nd Marines, 7th Battalion.

- Identified and increased understanding of a possible cluster of suicides among the 2nd Marines, 7th Battalion after deployment.
- Increased understanding of similarities in the cluster can guide resource allocation for preventing suicide deaths.

Analyzed behavioral health encounter data and psychotropic drug pharmacy transactions among a select group of Marine Corps recruits who were identified with suicide ideation and/or attempts.

- Heighten Commandant of the Marine Corps' awareness of the severity of suicide ideation and career outcomes for this group.

Sponsored the September Suicide Awareness Month webinar in partnership with OPNAV N17 and identified opportunities for local program managers to be leaders in suicide prevention.

- Increased awareness and understanding of the Navy's evidence-based prevention and intervention resources for program managers to conduct services with service members.

Evaluated the impact of placing Internal Behavioral Health Consultants (IBHCs) in primary care clinics on the number of days between booking and the scheduled appointment at mental health clinics.

- Found no association between the two metrics.
- Assessed the impact of the program on beneficiaries' access to mental health services.

Generated reports for BUMED of Post-Traumatic Stress Disorder (PTSD) incidence since 2002 in active duty service members and recruits with PTSD diagnoses.

- Provided leadership with surveillance trends and analyses to inform decisions on resource allocations for mental health care.



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PTSD Line List

Provided the number of current active duty Navy Special Warfare Command Sailors who met the PTSD case definition in the past year for the Navy Sea Air and Land (SEALs) lead psychologist.

Results

- Briefed the Admiral of the Naval Surface Warfare Center on PTSD medical care.
- Increased understanding of the occurrence of PTSD in the fleet which supports optimal distribution of medical resources.

Depressive Disorder Quarterly Reports

Developed quarterly reports for BUMED describing the incidence of depressive disorder among service members and recruits and the number of active duty service members who received depressive disorder-specific care within the past 12 months.

Results

- Increased leadership understanding of the severity of depressive disorder to inform targeted prevention measures.

Somatic Symptomatology among Adolescents Experiencing Parental Deployment

Analyzed parental deployment and the impact on adolescent mental healthcare utilization.

Results

- Identified that certain variables associated with deployment increase somatic symptomatology in certain adolescent groups which helps inform prevention and intervention efforts.
- Increased military-specific research related to deployment and the impacts on family mental health.

Chronic Pain

Non-Cancer Chronic Pain and Chronic Pain, High Utilizer, Polypharmacy Comparison

Compared Health Analysis' Non-Cancer Chronic Pain (NCCP) definition with the Chronic Pain, High Utilizer, Polypharmacy (CHUP) definition to display the difference between the programs.

Results

- Demonstrated that existing case definitions were limited in their ability to identify chronic pain patients.
- Developed a customized approach for Navy Medicine to accurately identify and manage chronic pain patients.

Chronic Pain Staffing Analysis

Evaluated provider capacity at eight MTFs with pain management specialty clinics to allow BUMED to determine staffing needs. Assessed target population burden in specialty care (pain) clinics and primary care.

Results

- Identified potential patient specialty care needs and informed the recapture of these patients to reduce purchased care costs.
- Provided information necessary to improve the Navy's ability to assess demand for critical healthcare services.

Environmental Exposures

Environmental Exposure Investigations

Provided leaders scientifically-based analysis and direct consultative support to address environmental exposure and cancer concerns at Department of the Navy (DON) installations, in collaboration with Environmental Programs Department.

Results

- Addressed sensitive medical issues, assessed force health protection programs, and anticipated and evaluated risks to the health of service members, their families, and civilians.
- Provided specialized analysis of environmental and occupational exposures based on medical treatment data to ensure the medical treatment staff on board ships had the correct skill sets.
- Became the go-to entity for disease cluster and public health surveillance data analysis through extensive experience in conducting environmental exposure investigations.

Geospatial Analysis

Geospatial Support for Disease Investigations

Provided maps and tables depicting the location of validated disease cases including the type of disease in relation to potential exposure sources.

Results

- Provided a visual display for better interpretation of the relationships between the location of potential exposures and the pattern of disease.
- Completed an analysis of respiratory illness based on modeled exposure using Geographic Information System (GIS) techniques.



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Completed the Navy Reserve GIS Maps analysis to assess the feasibility of moving reserve psychological care from DON reserve centers into MTFs.

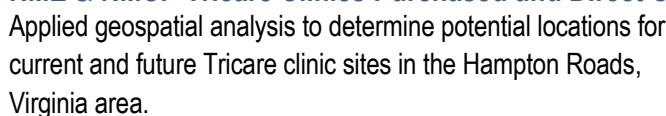
- Supported future assessments to evaluate ATC for reservists which informs decisions to appropriately prepare for staffing and patient care within Navy MTFs.

Provided geospatial and epidemiological analysis on the Navy enrolled population for Naval Hospital Beaufort to include enrollment information, drive time, and encounters in the direct and purchased care setting.

- Supported efforts to improve ATC at Naval Hospital Beaufort and inform decisions on appropriate staffing and available care.

Delivered details of the trauma landscape and determined the number and cost of major trauma admissions that could have been treated in the direct care system.

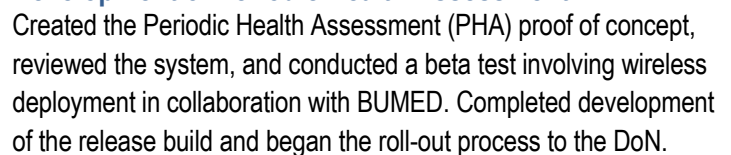
- Identified an opportunity for Naval Medical Center San Diego to recapture \$12 million from purchased care and improve access and quality of care for beneficiaries.



- Provided insight on diagnosis codes in this area and identified the providers and specialties needs to improve ATC.

Provided tables and geospatial maps that display locations of interest, drive times, and population densities related to conditions of interest (COI), i.e., tobacco, diabetes, and mental health.

- Identified resources for patient care to improve ATC needs.



- Projected to support over 650,000 users annually, enable data exchange between the services, and provide information to assess total force health.

Developed a new Health Risk Assessment system to migrate it from a system that was no longer supported to an accredited system.

- Integrated new technologies into the system and created a new user interface.
- Enabled the continued use of the Health Risk Assessment, a tool for military members and Government Service civilians which measures lifestyle behaviors that are most commonly associated with adverse health.

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Health Promotion Expertise

Health Promotion & Wellness Train-the-Trainer Training

Provided training on ShipShape, tobacco cessation, health promotion, weight management, sexual health, etc. Revised training curriculum with the latest, evidence-based resources.

Results

- Provided over 855 training seats to DON personnel to improve health education conducted throughout the enterprise.
- Provided expertise and resources to support a strong military that is physically healthy and ready to defend the nation.

Health Promotion and Wellness Newsletter

Combined and streamlined multiple newsletters into a revised Health Promotion and Wellness (HPW) Newsletter, sent to over 4,500 potential stakeholders.

Results

- Delivered information on the health observances, training schedule, and HPW website to increase awareness of key HPW focus areas.
- Increased the likelihood of life-saving, wellness-enhancing measures being implemented for the fleet.



Consultation on U.S. Navy General Military Training

Provided key subject matter expertise and contributed intellectual capital for the U.S. Navy General Military Training on topics including drug and alcohol awareness, tobacco cessation, hazing, and sexual health.

Results

- Increased awareness of HPW products and resources while improving the information distributed to service members.
- Bolstered PH as subject matter experts in Navy HPW programs.

Consultation on BUMED Instructions

Provided recommendations for the BUMED Instruction 6110.13A Navy Medical Department HPW Program.

Results

- Strengthened the role of HPW across the enterprise which increases the health and readiness of Sailors and Marines.
- Facilitated readiness through illness and injury prevention and adoption of lifelong healthy behaviors.

Injury Surveillance

Assessment of MHS Medical Injury Data

Assessed how events that lead to injury or illness are portrayed in the Military Health System (MHS) medical data, evaluating the following areas: recruit in-processing, injury documentation, management of clinical laboratory samples, the Crucible, activities at Camp Pendleton, and medical board processing.

Results

- Used this data for surveillance activities to develop injury reports that provide key measures of musculoskeletal injury prevention interventions over the Navy and Marine Corps enterprise.

Injury Surveillance Reports

Provided expertise in injury surveillance and conducted analysis and reporting of injuries among active duty Sailors and Marines, including injuries resulting from motor vehicle accidents.

Results

- Used by Headquarters Marine Corps Safety Division to evaluate their efforts in reducing the frequency and cost of injuries and the impact on operational readiness.
- Used by Naval Safety Center to improve compliance with required injury mishap in the Web-Enabled Safety System.
- Requested by CDC to develop new injury analysis tools using the International Classification of Diseases (ICD), 10th Revision.

MARSOC Injury Rates and Injury Prevention

Determined that the injury rate for United States Marine Corps (USMC) Forces Special Operations Command (MARSOC) has been 41 percent lower than all other USMC units since 2011.

Results

- Identified that functional movement analysis and alignment with effective resources and clean physical training practices reduces the incidence and severity of musculoskeletal injuries.
- Resulted in the USMC Functional Fitness Instructor Program integrating parts of the MARSOC program to reduce injury rates.

Medical Home Port Population Health

Community Health Assessments

Developed Community Health Assessments (CHA) for Medical Home Port (MHP) Population Health pilot sites that included findings from a MTF and community scan for HPW programs and resources, geospatial analysis of MTF enrollee high density areas and drive time to HPW resources, and community-level health data.



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Results

- Provided in-depth descriptions of the population and existing resources to support evidence-based recommendations and inform HPW efforts as they relate to behavior change and the prevention of chronic conditions.

Ambulatory Intensive Care Portal

Developed an Ambulatory Intensive Care (AIC) Portal to support the MHP Population Health AIC program and conducted onsite training to provide guidance and improve use of the new program.

Results

- Provided tracking for all interactions between AIC support staff and AIC participants.
- Enabled better data collection for epidemiological analysis while reducing administrative burden.

Evidence-Based Recommendation Checklist

Developed an Evidence-Based Recommendation (EBR) Checklist to consolidate EBRs and resources and direct customers to exactly where they can go to use best practices.

Results

- Alleviated the need for MHP Population Health staff to conduct their own searches for the recommendations and best practices.
- Allowed MHP Population Health staff to spend more time with their patients providing direct patient education.

Navy Analytics

Navy Medicine Integrated Analytics Brief

Prepared a summary presentation of the analytics plan that defined the current state and potential staffing estimates of health analytics across Navy Medicine. Presented to the BUMED Executive Steering Committee (ESC) as lead of the Analytics Workstream for BUMED's High Reliability Organization (HRO) change plan.

Results

- Received support from the ESC to establish Integrated Analytics as a program of record.
- Used to shape health analytics in conjunction with BUMED's HRO efforts to improve analysis throughout Navy Medicine.

Program Evaluations

Health Experts onLine at Portsmouth Program Evaluation

Performed an in-depth look at costs and savings associated with providers using Health Experts onLine at Portsmouth (HELP) to communicate with specialists at NMCP.

Results

- Identified that HELP produced an 80 percent return on investment (ROI) based on prevented medical evacuations.
- Determined that the addition of intangible savings, such as reduced lost productivity, increased the ROI to 250 percent.

Partnership for Improvement Metric Support

Developed tables and graphs to display Navy MTFs healthcare measures in comparison to nationally recognized measures.

Results

- Enabled leadership to evaluate MTF performance for selected disease conditions and healthcare delivery activities through interactive graphs in order to support improvement efforts.

Perinatal Program Survey Evaluation

Analyzed a survey for BUMED that involved 116 program evaluation questions from 16 Navy MTFs.

Results

- Provided a qualitative and quantitative analysis of perinatal programs to inform leadership decision making.
- Resulted in plans to include the Population Health Directorate in the development and analysis of the next survey.

Quality of Care

Case Management Staffing Analysis

Evaluated case management staffing and encounters, analyzed temporal trends, and explored variability in case manager workload.

Results

- Identified an opportunity to improve coding frequency and accuracy, especially among social work case managers.
- Assisted with improving quality of care for Navy beneficiaries.

Irritable Bowel Syndrome and Infertility Cross Prevalence Descriptive Analysis for NMCP

Reviewed the occurrence of irritable bowel syndrome, infertility, and endometriosis among female MHS beneficiaries and assessed the co-occurrence of these conditions in a large sample of patients.

Results

- Supported further research questions and changes to improve the clinical process for women with these conditions.



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Reportable and Emerging Infections

Ebola and Zika Surveillance

Developed an algorithm to query the MHS laboratory data for any indication of testing or concern for Ebola and Zika infections.

Results

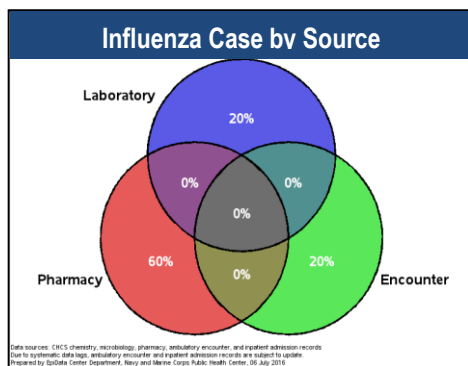
- Provided mechanism to identify and share information with service public health commands and Armed Forces Health Surveillance Branch (AFHSB) to prevent the spread of disease, track impacted beneficiaries and provide information about disease burden on the DoD.

Influenza Season Surveillance and Summary Report

Provided comprehensive surveillance using multiple clinical and support data sources to evaluate the burden and severity of influenza on the DON beneficiary population, with specific focus on special populations (e.g., active duty, children, and recruits) and developed a seasonal influenza summary report.

Results

- Determined potential risks associated with influenza such as relationship to bacterial coinfections and immunizations provided within DON MTFs.
- Allowed for an evaluation and comparison of the recent season to previous seasonal trends, analyses of the impact of data sources on the burden assessment, and a more in-depth study of comorbidities for confirmed cases.



Zika Preparedness Support for Navy Medicine

Reviewed female pregnancies across Navy Medicine and provided geospatial diagrams to identify pregnancy population densities and locations.

Results

- Assisted BUMED in determining where potential infections may occur, potential impact on the community, and potential demand on laboratory services for associated testing.

Disease Reporting System Internet

Supported medical event reporting (MER) process improvement efforts across DON MTFs by comparing laboratory case finding data with MER data to determine which cases were not reported by MTFs.

Results

- Improved medical event reporting by preventive medicine technicians at DON MTFs of laboratory positive reportable cases in Disease Reporting System Internet (DRSi).

Presentation on Ebola at International Society for Disease Surveillance Conference

Supported a lightning round presentation in collaboration with Infectious Disease Clinical Research Program (IDCRP), AFHSB, and Walter Reed National Military Medical Center. The IDCRP-lead study presented is titled "Use of Electronic Health Records to Determine the Impact of Ebola Screening".

Results

- Illustrated the plans to conduct an analysis of screening chief complaints and laboratory orders to identify patients presented for Ebola Virus disease screening within the MHS.

Sexual Health

Sexual Health and Responsibility Program Management

Managed the Sexual Health and Responsibility Program (SHARP) and provided advice to the BUMED Women's Health Advisory Board, National Coalition for Sexual Health, Defense Health Agency (DHA) Workgroup for the DoD Survey of Health Related Behavior, and National Campaign to Prevent Teen and Unplanned Pregnancy. Led analyses of Navy Medicine contraception prescription practices and HIV risk behavior for service members.

Results

- Trained over 300 healthcare team members to ensure informed decision making regarding contraceptive use and sexual health risk reduction for Sailors, Marines, Soldiers, and Airmen.

Long-Acting Reversible Contraception Use at Navy MTFs

Calculated the total number of women documented as having a Long-Acting Reversible Contraception (LARC) from 2009 to 2015.

Results

- Provided this information to a congressional inquiry response regarding intrauterine device use and availability in the Navy, demonstrating PH's expertise and capabilities to leadership.



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Sexually Transmitted Infection 2015 Report

Conducted Sexually Transmitted Infection (STI) surveillance to examine data trends based on chlamydia, gonorrhea, and syphilis MER submitted for DON active duty service members during 2015.

Results

- Guided provider testing and diagnosis procedures to ensure adequate care of all beneficiaries.
- Assessed STI burden based on patterns of reporting for DON service members.

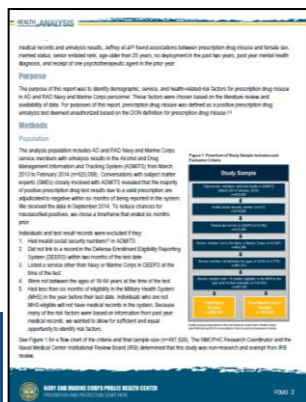
Substance Use

Analysis for the Drug Demand Reduction Program

Examined DON policies as well as risk factors for unauthorized prescription drug use in active duty Sailors and Marines for the Assistant Secretary of Defense, Manpower and Reserve Affairs (M&RA)'s Drug Demand Reduction Project (DDRP).

Results

- Informed the development of targeted efforts for DDRP.
- Assessed how DON policies could more effectively address and detect prescription drug misuse among service members.



Risk Factors for Unauthorized Prescription Drug Use

Active Duty High Narcotics Users Roster

Analyzed and identified high narcotics use at targeted MTFs.

Results

- Provided MTFs the necessary information to target care management activities for high narcotics users.

Substance Abuse and Rehabilitation Program Support

Developed the SARP Referral Tool at the request of BUMED. Completed SARP Data and Asset Inventory to assess variables acquired from the MHS Data Repository (MDR) or MHS Mart (M2).

Results

- Standardized how providers apply the referral algorithm for patients with moderate alcohol and substance use disorder.
- Determined metric development for a quarterly report and provided recommendations for additional information capture to assist the program evaluation.

Consultation on OPNAV Instructions

Provided recommendations for the OPNAVINST 5350.4E Alcohol and Drug Abuse Prevention and Control.

Results

- Facilitated readiness through illness and injury prevention and adoption of lifelong healthy behaviors.

Alcohol and Substance Use Disorders Quarterly Reports

Determined prevalence of alcohol and substance abuse among DON active duty service members from 2003 through 2015.

Results

- Assisted with the identification of trends and outcomes to inform data-driven policy and healthcare decisions and ensure that alcohol and substance abuse assets are adequately deployed.

Monthly Alcohol Use Disorder Metrics

Developed monthly metrics for the USMC Behavioral Health Branch to describe the number of active duty Marines diagnosed with alcohol use disorder at a MTF by month, displayed by inpatient and outpatient and if the service member was seen at a SARP clinic.

Results

- Guided resource development and information distribution aimed to prevent development of use disorders.

Surveillance Data Gaps

Analysis of GENESIS Implementation

Identified and provided input for the DHA impact statement for the prolonged data gap on public health surveillance systems across DoD as part of the rollout of GENESIS, the new electronic health record, in the Pacific Northwest.

Results

- Determined that potential data gaps will severely impact Navy Medicine's ability to track communicable diseases, vaccines, laboratory results, and other public health surveillance data, which hinders attempts to control outbreaks and prevent the spread of disease across the enterprise.



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Tobacco

Primary DON Tobacco Subject Matter Expert

Served as the primary Navy Medicine resource on tobacco and responded to Secretary of the Navy (SECNAV) taskers and congressional requests.

Results

- Supported BUMED to formulate advanced preparation questions regarding tobacco cessation for the Senate Appropriations Committee.
- Assessed the cost of smoking cessation treatment for active duty Sailors and Marines.
- Promoted education and awareness to the Navy on preventing and quitting tobacco.

Consultation on SECNAV Instruction

Provided input and review on the revised SECNAV 5100.13E Navy and Marine Corps Tobacco Policy.

- Solidified HPW's role as subject matter experts on tobacco as BUMED referred SECNAV staff to HPW.
- Strengthened the SECNAV policy by ensuring all tobacco products types were addressed consistently throughout the entire instruction to ensure full compliance and address all types of tobacco use.

Tobacco Cessation Reports

Conducted biannual regional and Navy Medicine MTF health promotion tobacco cessation metric analyses for Navy Medicine leadership.

Results

- Used to guide policy and programmatic decision making.

Tobacco Awareness Public Service Announcements

Collaborated with BUMED to design, develop, and execute four new public service announcement videos in support of Tobacco-Free Living Month, which are available on DVIDS (a DoD website).

Results

- Incorporated by the Naval Education and Training Command (NETC) into the Navy's General Military Training for Tobacco Awareness and Prevention.
- Provided easily accessible, accurate information about the health implications of tobacco to Sailors and Marines and healthcare providers as well as the broader DoD community.

Tobacco Awareness Public Service Announcements

